control loop may take into account a historical record of measurements that each control loop has made.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows attenuation of a carrier due to atmospheric changes;

FIG. 2 is a high-level block diagram of an embodiment the invention;

FIG. 3 is an illustration of a system in which an embodiment of the invention may be employed;

FIG. 4 is a block diagram of a system in accordance with an embodiment of the invention;

FIGS. 5A-G are illustrations of dead zones and how they might be employed in an embodiment of the invention; and

CA 5/19/06

FIG. 6A-9 are illustrations of a dead zone and how it might be used in an embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

To alleviate the problems with power control as practiced in the prior art, we have developed a method for effective power control of a communication signal. This power control may be of a signal transmitted from a ground station to a satellite or of a signal transmitted from a satellite to a ground station (or to another satellite). Further, while the invention is primarily directed towards satellite communications, it may be applied to transmission of communication signals in other environments. This approach combines the real-time monitoring results of a loopback communications carrier signal with those of the non-communications signals (e.g., satellite beacon and pilot signals in satellite based communications) as indicators for determining the proper amount of transmit power adjustment. Loop-back carriers are defined as those carriers that can be received at their transmit location (e.g., they are sent from a ground station to a satellite and then returned from the satellite to the ground station). In addition, this approach may utilize data from past received power measurements or other performance parameter (such as energy per bit to noise power spectral density ratio (Eb/No)) in a weighted fashion for determining the amount of adjustment.